

FIG. 1

HindIII

pKK223-3 TTCACACAGAAAACAGAAATTCCCGGGATCCGTGACCTGCAGCCAAGCTT

SEQ ID NO. : 285

pKK223-3N TTCACATAAGGAGGA~~AAA~~AccatggGATCCG-----AAGCTT

NcoI

SEQ ID NO. : 286

FIG. 2A

Cloning Step 1

I N A N P N A N P N A N P N A N P E L
A ATT AAC GCT AAT CCG AAC GCT AAT CCG AAC GCT AAT CCG AAC GCT AAT CCG AAC GCT CTTG CGA TTA GGC TTG CGA TTA GGC TTG CGA TTA GGC TTG CGA TTA GGC C

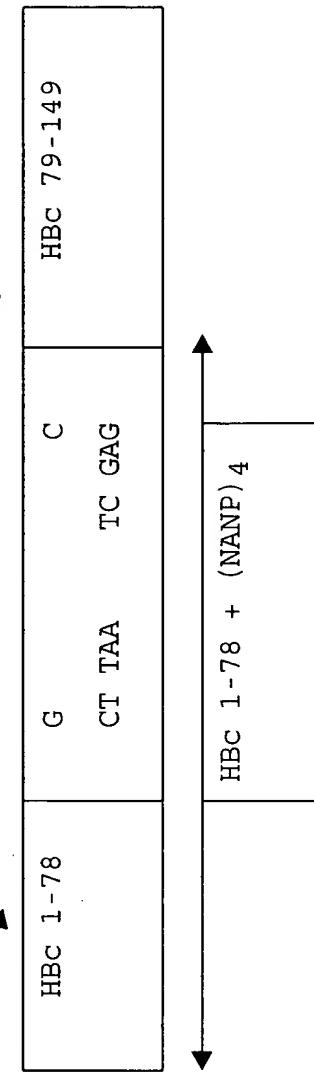


FIG. 2B

Cloning Step 2

I E Y L N K I Q N S L S T E W S P C S V T *
A ATT GAA TAT CTG AAC AAA ATC CAG AAC TCT CTG TCC ACC GAA TGG TCT CCG TGC TCC GTT ACC TAA AAG CT
CTT ATA GAC TTG TTT TAG GTC TTG AGA GAC AGG CTT ACC AGA GGC ACG AGG CAA TGG ATT T

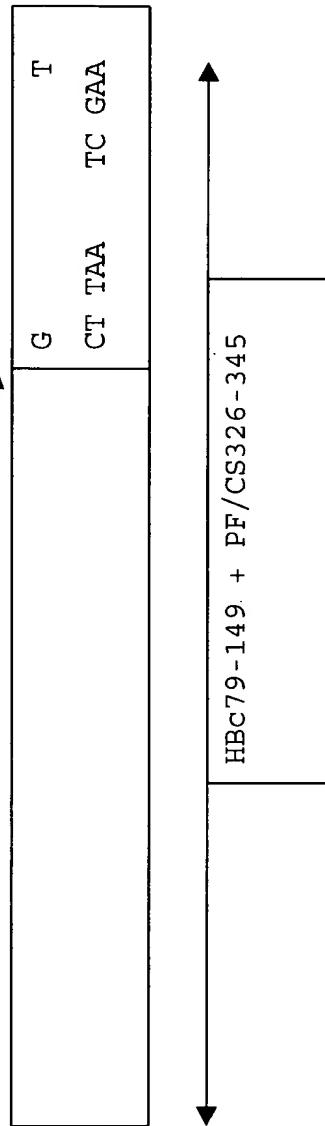


FIG. 2C

Cloning Step 3

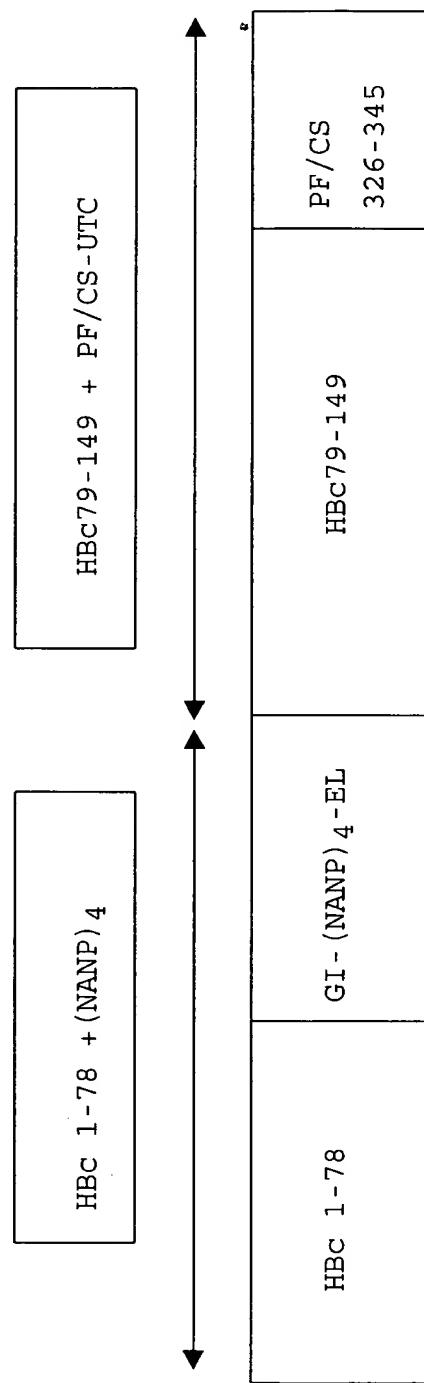


FIG. 3

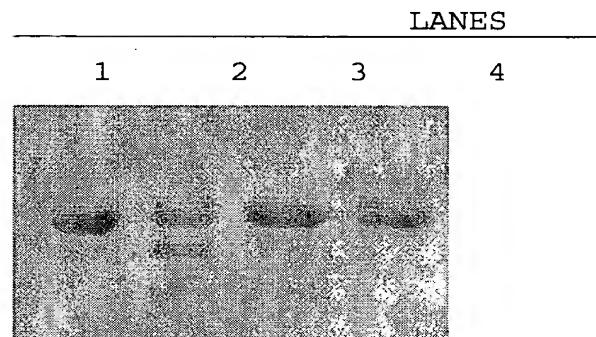


FIG. 4

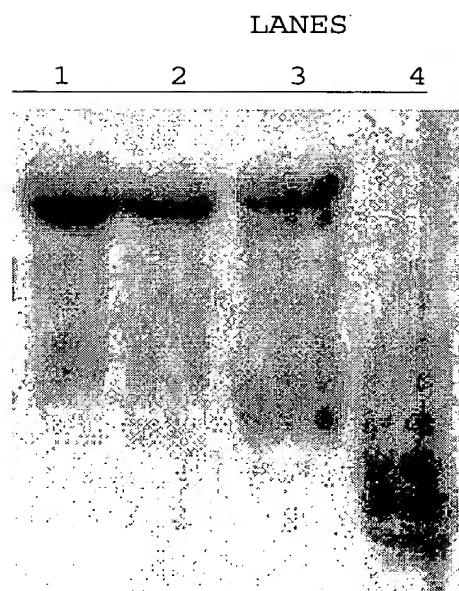


FIG. 5

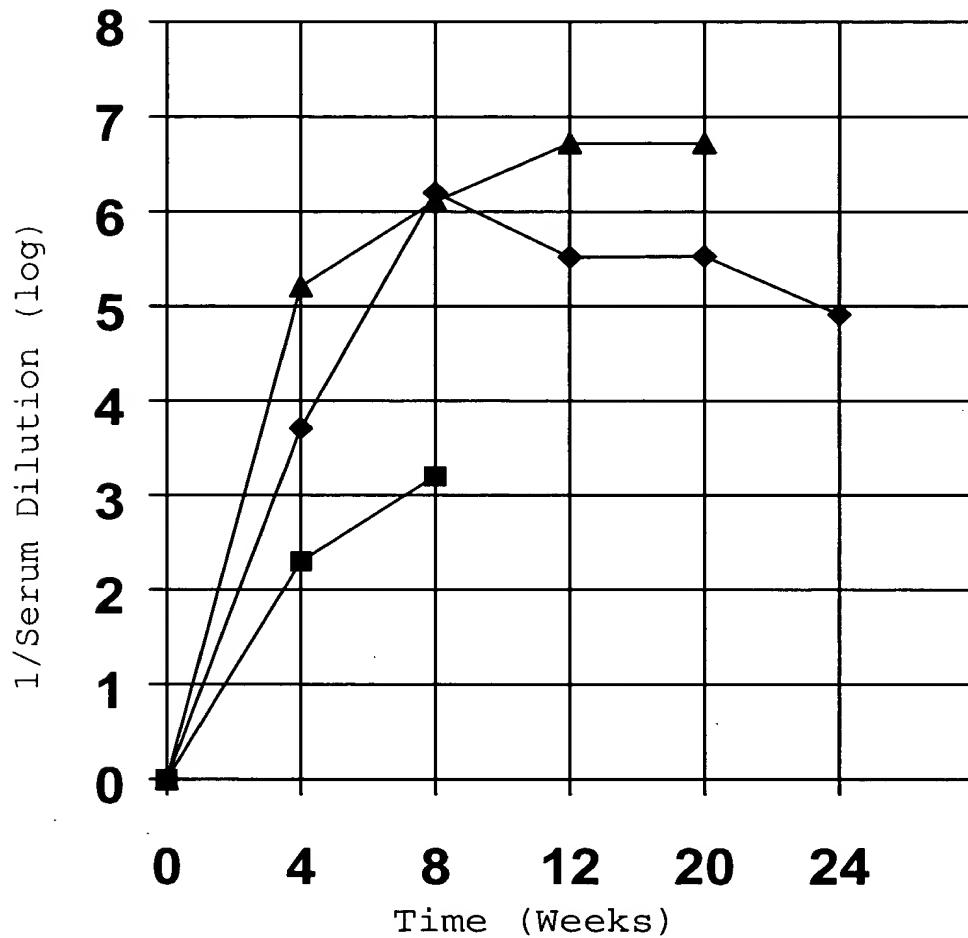
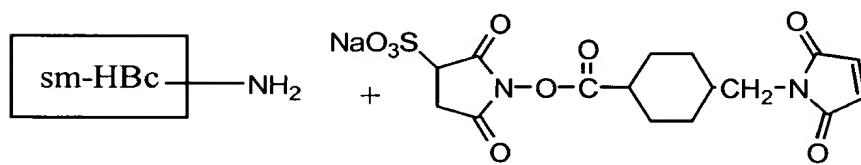


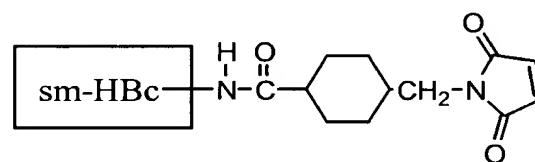
FIG. 6

Scheme 1

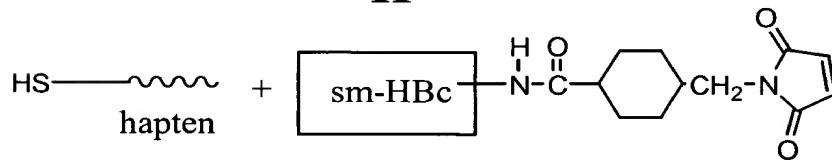
I



pH 7.5



II



pH 7.0

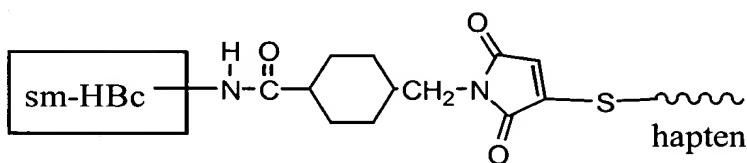


FIG. 7A

Ground Squirrel mylfhlc1vf acvpcp1tvqa sk1cl9wlwd

1
HBC AYW mdidpykefg atwellsf1p sdfffpsvrd1 ldtasalyre
HBC ADW mdidpykefg atwellsf1p sdfffpsvrd1 ldtasalyre
HBC ADW2 mdidpykefg atwellsf1p sdfffpsvrd1 ldtasalyre
HBC ADYW mdidpykefg atwellsf1p sdfffpsvrd1 ldtaaalyrd
Woodchuck mdidpykefg ssyq1lnf1p ldffpd1n1al vdtataalyee
Ground Squirrel mdidpykefg ssyq1lnf1p ldffpd1n1al vdtaaalyee

41
HBC AYW alespehcsp hhtalrqail cwgelm1lat wvgvn1edpa
HBC ADW alespehcsp hhtalrqail cwgelm1lat wvgmn1qdpda
HBC ADW2 alespehcsp hhtalrqail cwgelm1lat wvgmn1edpa
HBC ADYW alespehcsp hhtalrqail cwgdlmt1at wvgtn1edpa
Woodchuck eltgrehcsp hhtairqalv cwdeltk1ia wmsnnitseq
Ground Squirrel eltgrehcsp hhtairqalv cweeltr1it wmsentteev

FIG. 7B

| | | | | | | |
|----|-----------------|------|------------|-------------|------------|------------|
| 81 | HBC | AYW | srdlvvssvn | tnmglkfrql | lwfhiscltf | gretvleylv |
| | HBC | ADW | srdlvvnyvn | tnmglkirql | lwfhiscltf | gretvleylv |
| | HBC | ADW2 | srdlvvnyvn | tnvglkirql | lwfhiscltf | gretvleylv |
| | HBC | ADYW | srdlvvssvn | tnvglkfrql | lwfhiscltf | gretvleylv |
| | Woodchuck | | vrtilvhvn | dtwglkvrvqs | lwfhlscltf | gqhtvqeflv |
| | Ground Squirrel | | rrividhvnn | twglkvrvqtl | wfhlscltf | qhtvqeflv |

| | | | | | | |
|-----|-----------------|------|------------|-----------|------------|------------|
| 121 | HBC | AYW | sfgvwirtpp | ayrppnapi | stlpettvr | rrgrsrrrt |
| | HBC | ADW | sfgvwirtpp | ayrppnapi | stlpettvr | rrdrgrsrr |
| | HBC | ADW2 | sfgvwirtpp | ayrppnapi | stlpettvr | rrdrgrsrr |
| | HBC | ADYW | sfgvwirtpp | ayrppnapi | stlpettvr | rrgrsrrrt |
| | Woodchuck | | sfgvwirtpa | pyrppnapi | stlpentvir | rrggarasrs |
| | Ground Squirrel | | fgvwirtpp | yrppnapi | tlpehtvrr | rgsraarsp |

| | | | | | |
|-----|-----|-----------------|------------|-------------|---------|
| 161 | HBC | AYW | psprrrrsqs | prrrrsqrs e | sqc |
| | HBC | ADW | rtpsprrrs | qsprrrrsq s | resqc |
| | HBC | ADW2 | rtpsprrrps | qsprrrrqs | resqc |
| | HBC | ADYW | psprrrrsqs | prrrrsqrs e | sqc |
| | | Woodchuck | prrttsprrr | rrsqsprrrr | sqc |
| | | Ground Squirrel | rrrttsprrr | rsgspprrrs | qspasnc |

FIG. 8

V12.Pf1 V12.Pf1(C17A)C150

DAYs
0 7 14 0 7 14

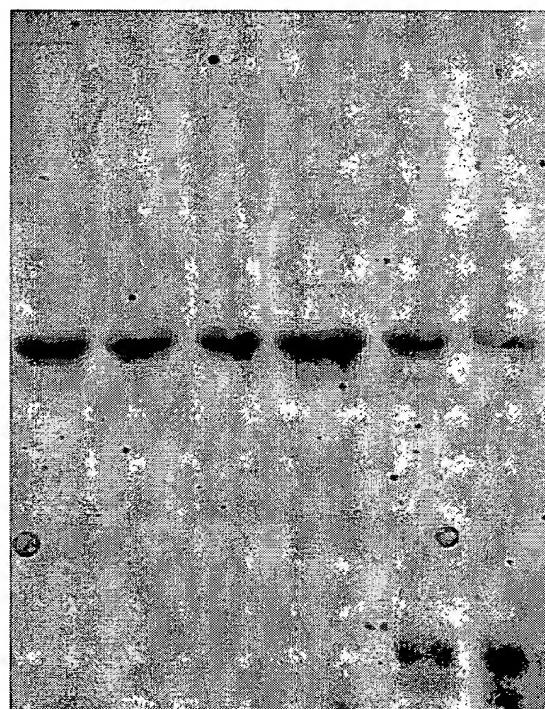


FIG. 9

1 2 3 4 5

